Chapter 2
PLANNING AREA DESCRIPTION

PLAN BOUNDARIES

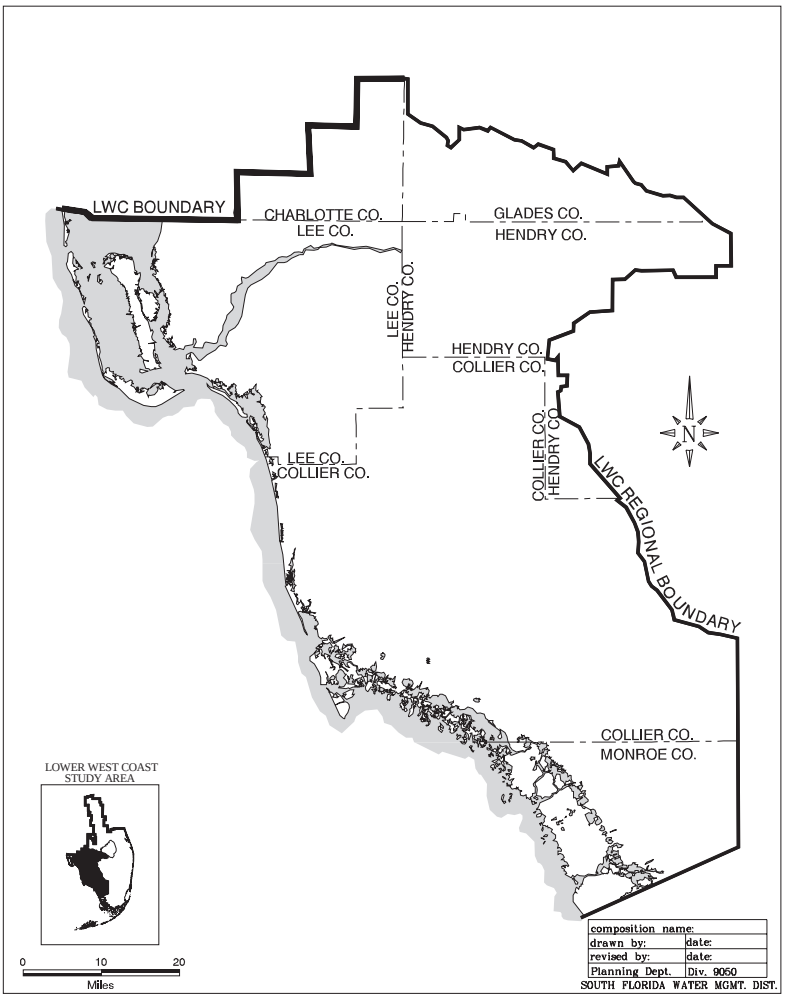

Figure 5. Lower West Coast Planning Area.

The LWC Planning Area includes all of Lee County, most of Collier and Hendry counties, and portions of Charlotte, Glades, and Monroe counties (**Figure 5**). Partial counties are shared with other regional planning areas. The portions of these counties within the LWC Planning Area are referred to as the Collier County Area, Hendry County Area, Charlotte County Area, Glades County Area, and Monroe County Area. The boundaries of the LWC Planning Area generally reflect the drainage patterns of the Caloosahatchee River basin and the Big Cypress Swamp. The northern boundary corresponds to the drainage divide of the Caloosahatchee River, which is generally the SFWMD/ SWFWMD jurisdictional boundary in Charlotte County, while the eastern boundary delineates the divide between the Big Cypress Swamp and Everglades system. The area east of this divide is in the Lower East Coast Planning Area.

Related Planning Areas

The District has established four water supply planning areas: (1) Lower West Coast, (2) Kissimmee Basin, (3) Upper East Coast, and the (4) Lower East Coast. Planning areas are generally defined by the drainage divides of major surface water systems in South Florida. The major water bodies considered in establishing these boundaries include the Kissimmee River, Lake Okeechobee, the Everglades and the Big

Cypress Swamp. The series of canals, levees, pump stations, and storage areas that comprise the Central and South Florida Flood Control Project were also considered because these structures have altered the hydrology of the natural water bodies (see Surface Water Resources discussion in Chapter 3).

Lake Okeechobee is considered part of each of the planning areas, which are connected to the lake through a regional surface water system. The Kissimmee River (Kissimmee Basin Planning Area) is the predominant surface water inflow into the lake, while the remaining three planning areas receive outflows from the lake. The major outflows are: (a) the Caloosahatchee River to the Lower West Coast (C-43); (b) the St. Lucie Canal (C-44) to the Upper East Coast; and (c) the West Palm Beach, Hillsborough, North New River, and Miami canals to the Lower East Coast.

The Caloosahatchee River and the St. Lucie Canal are used primarily for water releases when lake levels exceed water stages of the U.S. Army Corps of Engineer's regulation schedule. In addition to regulatory discharges for flood protection, these canals receive water deliveries from the lake to maintain water levels for navigation and water supply. The Caloosahatchee Basin within the LWC Planning Area is partially dependent on the lake for supplemental water supply and aquifer recharge. Evaluation of Lake Okeechobee and its associated demands is incorporated into the Lower East Coast Regional Water Supply Plan.

PHYSICAL FEATURES

Geography and Climate

The LWC Planning Area covers approximately 4,300 square miles. Average seasonal temperatures range from 64.3 degrees in January to 82.6 degrees in August (SWFRPC, 1990). Nearly two-thirds of annual rainfall occurs during the May to October wet season. Rainfall is further discussed in Chapter 3.

Physiography

South Florida is characterized by low topographic relief and a high water table. With this type of flat terrain, a few vertical feet may have a profound effect on surface water drainage, vegetation, and settlement patterns. The dominant surface water feature of South Florida is the Kissimmee-Okeechobee-Everglades (KOE) drainage system, which is critical to the ecology of South Florida. The Kissimmee River, which is currently undergoing restoration, once meandered through a marsh floodplain into Lake Okeechobee. The natural outflow of the lake in the past was through the Everglades to the south. This sheetflow to the “River of Grass” has been replaced with a series of water control structures which regulate the stage and flow of the KOE drainage system.

A large part of the LWC Planning Area lies within the boundary of the Big Cypress physiographic province. This region, which is flat and has large areas with solution-

riddled limestone at the surface, drains to the coastal marshes and mangrove swamps of the Ten Thousand Islands. The only major waterway in the LWC Planning Area other than the Caloosahatchee River is the system of canals in western Collier County which are monitored, controlled, and managed by the Big Cypress Basin (a subunit of the SFWMD). The physiography of South Florida is discussed in further detail in "Environments of South Florida: Present and Past II" (Gleason, 1984).

Population

The Lower West Coast Planning Area is expected to experience substantial growth between now and the year 2020 (**Table 2**). The region's population is expected to increase by 68 percent from 1995 levels, (compared to Districtwide projected increase of 43 percent) with urban expansion occurring mostly in the coastal areas. Rapid growth in population, in addition to irrigated agricultural acreage within the LWC Planning Area has caused demands for water to increase significantly.

Table 2. Population, 1995-2020.

County Area	1995	2020	Increase	% Growth
Lee	375,238	594,300	219,062	58
Collier	182,933	349,200	166,267	91
Charlotte	645	1,746	1,101	171
Hendry	27,714	39,999	12,285	44
Glades	4,409	7,560	3,151	71
LWC Planning Area Total	590,939	992,805	401,866	68

Source: Bureau of Economic Business Research (BEBR) Medium Projections.

The estimate of total population in the LWC Planning Area for 1995 was 590,939. The total population is projected to increase by 68 percent to 992,805 in 2020. Most of the population is settled in Lee and Collier counties. More detailed population figures and their associated demands are discussed in Chapter 6. The data sources and methodologies that were used to develop population estimates and projections are provided in Appendix F.

MUNICIPALITIES

There are twelve municipalities in the LWC Planning Area. These are the city of Bonita Springs City, the city of Cape Coral, the city of Clewiston, the city of Everglades City, the city of Fort Myers, the town of Fort Myers Beach, the city of LaBelle, the town of Longboat Key, the city of Marco Island, the city of Moore Haven, the city of Naples, and the city of Sanibel.

AGRICULTURE

The LWC Planning Area continues to experience growth in irrigated agricultural acreage, especially citrus. The irrigated crops in this region are citrus, sugarcane, vegetables, sod, and greenhouse/nursery. Overall growth in citrus acreage in the LWC Planning Area is projected to increase by 30 percent to 166,739 acres by 2020. While the Glades County Area is anticipated to have the highest percent increase in irrigated citrus acreage, the Collier County Area is expected to have the highest actual increase in irrigated citrus acreage by 2020 **(Table 3)**. Estimates and projections of irrigated acreage for all crops are presented in **Chapter 6**.

Table 3. Irrigated Citrus Acreage, 1995-2020.

County Area	1995	2020	Increase	% Growth
Lee	12,197	16,150	3,953	32
Collier	36,559	55,966	19,407	53
Hendry	71,560	82,054	10,494	15
Glades	4,855	8,261	3,406	70
Charlotte	3,088	4,308	1,220	40
LWC Planning Area Total	128,259	166,739	38,480	30

LAND USE

Existing Land Use

Percentage of land uses in each of the county areas within the LWC Planning Area is presented in **Table 4**. Land use within the LWC Planning Area is predominantly wetland, especially in the Charlotte, Collier, Lee, and Monroe county areas. The Collier County Area has the largest percentage and acres of wetlands, while Lee County contains the most urban land use. Urban land use is primarily located in the coastal portions of Lee and Collier county areas. The highest percentages of agriculture is in the Hendry and Glades county areas **(Table 4 and Plates 1 - 4)**.

Updated Land Use Classification System

The Florida Department of Transportation (FDOT) Florida Land Use and Cover Classification System (FLUCCS) was used to delineate and classify land use/land cover for this plan. This FDOT FLUCCS classification system is now the statewide standard for all water management districts and state agencies. Prior to 1995, the District's 1988 land use/land cover classification system was used, including information contained in the LWC Water Supply Plan Background Document (1994).

Table 4. Acreage and Percentage of Land Use by County Planning Area.

	Charlotte Area		Collier Area		Hendry Area		Lee Area		Glades Area		Monroe Area[a]		LWC Planning Area	
Land Use	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**	**Acres**	**%**
Urban	2,428	2	79,663	7	21,140	5	196,424	37	7,464	3	30	0	324,338	11
Agriculture	45,598	30	135,980	12	242,391	62	77,467	15	96,236	48	104	0	654,983	22
Range	13,787	9	14,552	1	15,834	4	18,281	3	12,156	6	0	0	61,952	3
Upland Forest	50,763	33	118,655	10	32,168	8	88,974	17	49,597	25	3891	1	285,360	13
Water	371	0	16,064	1	4,194	1	25,413	5	998	1	4,554	2	21,082	1
Wetland	39,171	26	810,739	69	72,334	19	115,194	22	32,478	16	272,483	97	1,344,253	49
Barren	769	0	4,929	0	2,460	1	10,205	1	2012	1	78	0	13,619	1
Total	152,890	100	1,180,584	100	390,524	100	531,960	100	200,943	100	281,140	100	2,705,587	100

a. The Monroe County Area consists of portions of Everglades National Park and Big Cypress Basin which have neither agricultural nor urban demands.

Source: SFWMD Florida Land Use/Land Cover GIS database, 1995.

Land Use Trends

Based on local government comprehensive plans, urbanization is anticipated to increase in the Lee and Collier county areas. Agriculture has been the predominant land use in Hendry and Glades county areas and is projected to remain so in the future. In Lee and Collier counties, the percentage of agricultural land use is projected to decrease as a result of urban encroachment.